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ABSTRACT

This paper describes the Professional Renewal Program for Educators (PRPE), a faculty-driven, tripartite effort developed to increase the knowledge and skills of education faculty, arts and sciences faculty, and P-12 classroom teachers in the areas of instructional technology, cultural diversity, and democratic principles in public education. Led by pairs of expert co-facilitators drawn from among their peers, cohorts of educators engaged in a series of inservice sessions spread over three semesters. In order to explore the effectiveness of peer instruction, participants were asked to complete an instrument that self-assessed their knowledge, skills, and dispositions related to diversity, technology, and the National Network for Education Renewal's (NNER's) agenda related to democracy. Results indicated that instruction in the PRPE was effective in promoting participants' growth in knowledge, skills, and dispositions related to diversity, technology, and the NNER agenda. Dividing leadership and responsibility between co-facilitators for each cohort was an effective strategy. (Contains 16 references.) (SM)

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Documenting and Exploring the Effectiveness of a Tri-Partite Renewal Collaboration Among Arts and Sciences and Education Faculty and P-12 Teachers

Paper presented at the annual meeting of
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"Insanity is doing the same thing over and over again and expecting different results." Albert Einstein

Watercooler conversations at schools, colleges and departments of education in these days of rapidly morphing landscapes include, among other things, anxious comments about the need to do better jobs at several things simultaneously: infuse multicultural perspectives into courses, master and model the various technologies preservice teachers should use, form viable partnerships with PK-12 schools and safeguard the role of public education in a democracy. And given the public's demand for results and increased accountability, most of those important goals should be achieved by yesterday. Without a doubt, PK-12 schools are under pressure to reform and perform at higher levels. However, the skills, attitudes and practices of classroom teachers are inextricably linked to the preservice preparation they receive (Lortie, 1975). Despite that strong connection, however, the systematic renewal and restructuring of teacher education programs necessary to improve the preparation of teachers, as well as to meet our own professional standards, is a relatively new concern. Metaphors for working for change among college faculty abound, with "herding cats" and "working with a bucket of eels" being among the more colorful. Few studies of sustained, faculty-driven development programs exist, although the glacial pace of change in higher education is well-documented (Schlechty, 1990, Fullan, 1993, Guskin, 1996). Even less prominent are joint renewal efforts between universities and PK-12 teachers where all involved are equal partners. Inspiring and sustaining large-scale change in a teacher education program is a recursive process, fraught with tensions and potholes, as well as possibilities and opportunities for victory and rejuvenation.

This article provides a snapshot and analysis of just such an attempt: the Professional Renewal Program for Educators (PRPE). The PRPE is a faculty-driven, tri-partite effort developed to increase the knowledge and skills of education faculty, arts and sciences faculty and PK-12 classroom teachers in the key areas of instructional technology,

cultural diversity and democratic principles in public education. The program's umbrella goal is to increase the abilities of participants to attend meaningfully to the formation of preservice teachers entering an arena which looks much different from that of their teacher educators' early experiences. We begin by situating the need for systematic and sustained change in teacher education in particular within the context of the daunting challenge of change in higher education in general. We will provide an overview of the content and membership of the PRPE and then present results of pre- and posttests administered to all participants, intended to measure the gains they made in knowledge, skills and dispositions related to diversity, technology and democracy. We will describe the dramatic renewal of the teacher education program which the PRPE both inspired and supported and will conclude with implications for this institution and other teacher education programs considering or engaged in similar change endeavors.

Literature Review

Change is indeed imperative for university and college-based teacher educators, a disconcerting thought for holders of "terminal degrees." A decade ago, Goodlad (1990) concluded that the "teacher education train is not on the tracks, the engine is not coupled to the cars, nor the cars to one another, and the Board of Directors is not even sure where the train should go" (p.270). More recently, Hutchens (1998) argued that teacher educators should either promote more vital relationships with PK-12 teachers or risk having others "step up to the plate and reconfigure teacher education and drive school reform" (p.38). Innerst (1998) challenged teacher training programs to discard outdated practices that guarantee teacher mediocrity. Studies of school-based initiatives have also produced elaborations which relate specifically to PK-12 schools and/or to teacher education programs. For example, the agenda of the National Network for Educational Renewal (NNER) challenges all teachers to assume the role of change agents. The NNER vision posits that teacher education programs must develop future teachers who understand that change is necessary, change is possible and who possess a personal commitment to

fostering school change. Goodlad (1994), the catalyst behind the work of the NNER, proposes 19 postulates (conditions necessary for educational renewal to occur) which support the need for simultaneous renewal of all levels of the educational system— grades PK-16. The NNER agenda especially challenges teacher educators to work collaboratively with PK-12 teachers and with their colleagues in Arts and Sciences, driven by the four moral imperatives of facilitating enculturation into a social and political democracy, providing access to knowledge, utilizing nurturing pedagogy and providing stewardship (Goodlad, 1994).

Fullan (1993) echoes those exhortations, contending further that schools must become true learning organizations which are expert at dealing with change. His vision of teacher education includes an ethos of constant inquiry and collaboration on local and global scales, with education faculty working with their colleagues from their own universities, other universities and PK-12 schools. Collegiality is a strong theme in Schlechty's (1990) work as well. He stresses the importance of granting positive recognition to those engaged in educational reform efforts, in a manner that elevates self-worth more than it denigrates past sins. Further, he argues, any change processes employed must allow educators to share their opinions and beliefs and the resulting changes must increase teachers' chances of success. Fullan (1993) broadens the need for change to include both prospective and practicing teachers, suggesting that North American schools are "continuous conservative systems," occupied by educators who are sadly unprepared to fulfill their moral responsibility for teaching citizens to deal proactively with change, individually or collectively, in the context of a dynamic, multicultural global transformation" (p. 4). Wasley (1997) notes several factors contributing to the need for significant renewal efforts in teacher education programs: the changing circumstances of children's lives, a growing knowledge base related to the critical influences of cultural variations, the changing nature of training in many institutions around the country, and the changing perspectives on knowledge and forms of communication available through

technologies. However, formidable challenges to change exist in teacher education programs which necessarily exist within the broader context of higher education in general.

Guskin (1996), whose research has focused on change processes in higher education, believes that simply getting started is the key to successful change, as academics are exceptionally adept at immobilizing themselves through over-analysis of difficult issues. He identifies five keys to changing higher education systems: a) it is essential to reach consensus on the urgent need to restructure, based on internal and external realities; b) building a working consensus around a vision of the institution's future is imperative; c) any leadership team must include from the outset recognized leaders plus other faculty and administrators; d) all must understand that full implementation of changes is certain to take a considerable amount of time and e) the change process must be supported by a clear general timeline which identifies key phases, supports demonstration projects and creates opportunities to celebrate early victories. Supported by this knowledge base related to the simultaneous complexity and imperative for changing the way teachers are prepared, the PRPE described below evolved from discussions among a small group of teacher educators.

Context of the Professional Renewal Program for Educators

In the summer of 1997, a small group of College of Education (COE) faculty at a public university in the Midwest met, charged by their dean with improving the content and delivery of multicultural concepts throughout the courses of study of all teacher education students at the institution. The request was a result of two events: the formulation of a 5-year Strategic Plan for the COE and an NCATE accreditation visit which identified gaps in diversity, both in faculty composition and in coursework. That task alone was formidable. It was made more so by a reading of the technological proficiencies expected of new teachers outlined by the National Council for Accreditation of Teacher Education's then-recent document (NCATE, 1997) added to their workload. Furthermore, as a new member of the National Network for Educational Renewal (NNER), this COE and its partner

teachers also had significant study and training ahead to develop the meaningful school-university partnerships and immersion in the role of public education in sustaining a democracy which drive the NNER work. All three of these agendas demand a vast and upgraded array of knowledge and skills from all teacher educators, for this COE, supported by best practices research, is committed philosophically to an infusion model of curriculum with regard to major themes. The group recognized that the three areas– diversity, technology and the NNER agenda– were impossible to prioritize and that expertise in all three were necessary components of every teacher educator's repertoire, regardless of the particular courses taught, if they were to provide adequate preparation for teachers entering the classrooms of the 21st century. These concerns were substantiated by the NCATE appraisal and the COE's immersion in NNER simultaneous renewal literature, which suggests complementarity among fields and ideas. For instance, ensuring that all preservice teachers are proficient in uses of instructional technology provokes ethical questions of access to knowledge for educators who face wildly disparate qualities of equipment, and students who do not have equitable access to computers in their schools and homes. An isolated workshop approach was deemed inappropriate for the systemic and sustained change envisioned; faculty development in this COE, although always well-intentioned, had a history of being spotty and sporadic. From that initial meeting of a small group of faculty with a single charge grew the following strategic plan for a Professional Renewal Program for Educators.

Over a 5.5-year period, all COE faculty, interested Arts and Sciences faculty and PK-12 teachers from the institution's partner schools would comprise three equally sized cohorts, which would remain intact throughout the experience. Led by pairs of co-facilitators drawn from among their peers (college and P-12 teachers) with special expertise in one of the three target areas, teacher educators (in the term's broadest sense, consistent with the NNER vision) would engage in a series of inservice sessions, each spread over

three semesters. Each cohort would cycle in turn through training devoted to NNER principles, technology and diversity. Although each cohort required a few logistical adjustments, the meeting schedule was essentially the same for all 65 participants. The cohorts met four times throughout each semester, during times built into each unit's calendar, ensuring the PRPE's priority. Each semester began with a whole-day session, followed by three 2-hour follow-up sessions, spaced evenly throughout the term. During two of the three day-long sessions, student education organizations assumed responsibility for designing and moderating Student Professional Development Days, freeing faculty from their teaching obligations and providing students with mini-conferences on current issues in education. Because the substance of the PRPE was so tied to the unit's strategic plan and NNER affiliation, COE faculty were expected by the Dean to commit to the spirit of renewal and professional development tied specifically to the three target areas supported in the cohort training. Faculty members who opted out of the cohorts provided a detailed professional development plan which addressed the three areas over the same 5.5 year period. The oversight committee felt this solution would ensure that regardless of the means selected by any given individual, all faculty members would be working toward a shared body of knowledge and skills. As it turned out, all members of the COE except one participated in the cohort system of faculty development. PK-12 partners and Arts and Science faculty participated less systematically, although those who chose to join cohorts remained in them throughout the entire first cycle. The two peer facilitators for each cohort were provided with one course reassigned time to prepare and deliver their instruction each semester.

Typically, the first and second semesters provided instruction related to attitude and knowledge objectives identified for each cohort experience. Peer facilitators built their curricula from intense scrutinies of relevant literature. The diversity cohort leaders, for instance, structured cohort content to address the basics of multicultural education, "the knowledge, attitudes and skills needed to teach to, about and through cultural diversity"

(Gay, 1997, p. 200). In particular, the content sought to develop in and model for participants a culturally sensitive ideology, some ethnic and cultural literacy, and the skills necessary to develop reflective, culturally centered pedagogy (Garcia, 1994, Garibaldi, 1992, Gay, 1986, 1997). The NNER cohort immersed themselves in the literature of simultaneous renewal, focusing most consistently on the four moral dimensions: access to knowledge, stewardship, nurturing pedagogy and enculturation into a social and political democracy. Members of the technology cohort drew most heavily on the technology competencies suggested by NCATE and ISTE (International Society for Technology in Education).

The third semester added the component of independent project development among participants as a means of applying the new information and insights in a supportive atmosphere of peers. Projects included syllabi revisions, Web page development, resource elaboration and enhanced instructional designs. Cohort members implemented their projects and tracked their progress, bringing problems and victories back to the larger group. At the end of the first three-semester cycle, the steering committee orchestrated a Share Fair event, in which members of all three cohorts met to present and celebrate their richly varied projects. After a full year's pause to initiate COE restructuring /renewal- itself a major outcome of the PRPE and a process significantly improved by the enhanced knowledge and skills of the entire tri-partite partnership- the second cycle of the PRPE has begun, with each cohort moving into one of the two areas they did not address in the first cycle. That will occupy the next three semesters, after which each cohort will end its tenure with the final of the original three topics, concluding a 6.5 year stretch of systematic professional development and program renewal clearly aligned with the unit's strategic plan and national standards for teacher education.

Such a systematic and sustained effort at professional renewal and upgrading of college faculty skills and knowledge in conjunction with their PK-12 colleagues is unique, despite the ongoing exhortations to change the ways teachers are prepared. Accountability

is also warranted, for the PRPE requires substantial human resources and re-consideration of courseloads and time, since the leadership comes entirely from existing faculty and PK-12 teachers. Additionally, with instructional technology one of the target areas, significant funds were allocated to upgrade faculty and lab computers, and to provide a teaching station which included LCD panels and computers on mobile carts. For all three cohorts, books and non-print materials necessary for the instruction were purchased. With significant human and material resources at stake, a study of the PRPE's effectiveness in promoting systemic change was definitely appropriate. Did it have a positive impact on the attitudes, knowledge and skills of participants related to the three strands of diversity, technology and NNER? Did any gains translate into a renewed and restructured undergraduate teacher education program? The supporting evidence which now follows came in two forms: a quantitative study assessing the instructional objectives and the renewed program which has been established and is currently underway.

Data Collection

In order to explore the effectiveness of the peer instruction, a 73 item Likert scale instrument was developed that asked participants to self-assess their knowledge, skills and dispositions related to diversity, technology and the NNER agenda. Thus, within the limitations of self-assessment, the effectiveness of the instruction could be documented. The items themselves were derived from the instructional goals and objectives for each cohort, developed by the co-facilitators of those cohorts.

Participants (N=49) who consented to be part of the study included 22 males and 27 females, overwhelmingly (N= 48) White. Faculty ranks and lengths of experience were relatively evenly distributed across cohorts. The instrument served as a pre-test in January 1998, prior to the commencement of the PRPE instruction. It was administered at the conclusion of the first cohort cycle in April 1999 and the results from each pre- and posttest then analyzed for significant differences.

[Insert Tables 1,2 approximately here]

Results and Discussion

These data indicate that instruction in the PRPE was effective in promoting participants' growth in their knowledge, skills and dispositions related to diversity, technology and the NNER agenda. Table 2 summarizes the items which were statistically significant for the diversity cohort. Participants developed new knowledge related to the culturally bound constraints of their own worldviews, the possible impact of that reality on their teaching and potential differences in the value sets and learning styles of European American, African American, Latino American, Asian American and Native American students. They also gained insights into those groups' sociopolitical histories in the US, consistently moving 1-1.5 points up between the pre- and posttest items related to that knowledge. Those results closely match the participants' ratings of satisfaction with the instruction received (Table 1) in the diversity cohort, consistently "very good" to nearly "excellent." Members of the diversity cohort found that the co-facilitators' objectives were consistently linked clearly to the instruction (4.55 on a 5 point scale) and that cohort sessions were intellectually stimulating (3.91).

It is noteworthy that, in addition to gaining new historical and factual knowledge, diversity cohort members also grew in their understandings of the relationships between their own ethnic identity development, racist behaviors and the teaching/learning process. Questions related to these items garnered the largest gains within the diversity cohort, from 3.33 to 5.33 and from 2.80 to 4.93, respectively. Since dispositional changes were key objectives of the co-facilitators, it is encouraging to note that gains were made. From the learners' point of view, it appears they received the type of instruction being promoted by the peer leaders, as they gave the instructors high marks (4.82 and 4.91 on a 5 point scale) for treating participants in an unbiased manner and for encouraging participant perspectives during instruction.

Projects designed, implemented and shared by participants at the Share Fair event at the end of the cohort experience suggest that the Diversity cohort was successful across

disciplines and instructional levels. "Multicultural Resources for Audiology and Speech Pathology Programs," "Assessment of Student Emancipative Action Related to Multicultural Education," "Youth Leadership Conference on Diversity," "Bringing Diversity into the Health Lesson and Classroom" and "Peaceable School" are among the 15 titles of collaborative, action-oriented projects which hint at the numerous ways participants chose to implement their newly acquired or enriched knowledge and skills.

Technology Cohort

Table 3 summarizes items that were statistically significant for the technology cohort. Significant changes took place in the knowledge and skills of members of the technology cohort as well. Technology cohort participants brought the least skills and background knowledge to the experience initially; the mean scores on several items on the pre-test were the lowest of *any* on the entire instrument. This provides a contrast to their uniformly high agreement on items related to the need for educators to be adept at electronic media: 4.82 on the item "Electronic presentation software is a valuable teaching/learning tool," 4.88 for "I support the current trend to infuse computer technology into classrooms," and 4.94 for the more dispositionally related "Lack of computer proficiency may adversely affect educators' careers." To the technology co-facilitators, it seemed clear that the only direction the majority of their learners could go was up.

And, in fact, there was at least modest growth noted on each item of the instrument from pre-to posttest. Participants did learn how to create electronic presentations and acquired some new skills related to multimedia. In particular, and at statistically significant levels, participants became more adept at using telecommunication technology to deliver instruction (from 2.35 to 4.06), at electronic conferencing (3.06 to 4.18) and using browsing tools to support their own research (3.41 to 4.94).

Participants' narrative comments on their post-tests warrant the claim that instruction and scheduling for the technology group were particularly challenging: "They had a tough time working with us; we are just like a bucket of eels." Although there were

gaps in background knowledge, hardware and platform variations and scheduling concerns, participants rated quality of instruction nearly excellent (Table 1).

Despite the inherent problems with bringing about uniform growth, cohort members did design and share commendable projects for the Share Fair and were able to incorporate what they learned into their work as teacher educators. Many participants collaborated on course or departmental Web pages, while others developed recruiting or informational Power Point presentations to support their work. Still others updated their course syllabi to require technological components.

[Insert Tables 3 and 4 approximately here]

NNER Cohort

Table 4 summarizes the items which were statistically significant for the NNER cohort. The data indicate that participants, whose affiliations included a larger number of PK-12 schools, made significant gains in their knowledge of the NNER agenda. The key principles of the NNER agenda: understanding that "teaching is a moral endeavor," that public schools serve to "enculturate the young into a social and political democracy," and must strive to "provide equitable access to all children though a nurturing pedagogy" and provide "stewardship of schools" were apparently better understood by participants after instruction than they were prior to the cohort experience.

As with the other two cohorts, members of the NNER group were very satisfied with the quality of instruction they received. In particular, they commended the co-facilitators for "walking the talk" of democracy by encouraging multiple viewpoints and precluding "any sense of a hierarchy." At the same time, however, the NNER cohort seems to have been the one to which participants brought the greatest amount of background knowledge, as indicated by their pre-test scores, and consequently posted fewer significant gains, even though the instructional objectives were met.

The partnership component of the NNER cohort is evident by the fact that the majority of projects created by members for the Share Fair were joint endeavors between

university faculty and PK-12 teachers or administrators. A sampling of those projects includes: "ABCD: Assessment Based Curriculum Development," Reading Recovery Tutoring," "Kindergarten Tutoring Project," and "Reading Strategies With Young Children."

Did the PRPE Work? A Renewed Undergraduate Teacher Preparation Program Emerges

An exciting outcome of the PRPE staff development model, and another source of evidence regarding its efficacy, is its impact on the institution's undergraduate teacher preparation program. Clearly, many of the change principles embraced in this effort, particularly Guskin's (1996) suggestions and the key strategies used to frame the PRPE are evident in the undergraduate teacher education program renewal efforts. This section shares a few of the most visible connections and similarities: manageability, shared leadership and tight focus.

One powerful similarity between the PRPE and the undergraduate program renewal is a commitment to maintaining a reasonable time line that is divided into manageable phases and celebrates victories. Clearly, this change principle is valid. Just as the PRPE was conceived of and implemented as an ongoing multi-year initiative, the program renewal consists of a series of phases that are scheduled to occur over four to five years. Currently, teams of educators are constructing the first two levels (by years) of the program and also conceptualizing a plan for assessing student performance and measuring program outcomes.

The undergraduate teacher education preparation model that has emerged from this process demonstrates a continued commitment to simultaneous joint renewal. For example, the renewal task force consists of 75 educators with balanced representation of K-12 teachers and administrators, arts and sciences faculty, and teacher education faculty. The eighteen- member subcommittee, responsible for proposing four possible models to the

larger taskforce, and eventually developing one "best" model, was also tripartite. The new program is a cohort-based model designed to facilitate opportunities for preservice teachers to generate shared visions and understandings. In addition, the four levels of the renewed program, built by tripartite groups of educators, will include integrated coursework. Level One combines an English composition course from the general studies with a College of Education course. These two courses share a field experience. Level Two is comprised of a College of Education course, a shared field experience, and a general studies course delivered by the political science department. A third illustration of joint renewal is the nature of the rejuvenated relationship with P-12 schools as a group of formal partner schools are being recruited and selected. This move enhances the potential for articulation and action linking teacher preparation to enhanced P-12 student performance.

The renewed program retains a primary focus on the PRPE themes of democracy, diversity, and technology. All three themes are explicitly infused into each level of the renewed program. The content, skills, and dispositions taught to preservice teachers in each thematic area mirror the content, skills, and dispositions emphasized in the PRPE faculty cohorts. Theme teams, groups of educators responsible for ensuring that each theme is effectively infused into each program level, have been mobilized. Theme team members are supported in this endeavor by being provided with extra opportunities for attending appropriate conferences and events. Similarly, the selection of formal partner schools will in part be predicated upon each school's profile with regard to democracy, diversity, and technology. The move to formal partner schools ensures that all education majors will gain experiences in rural and urban schools, ethnically diverse schools, and technologically varied schools. All education majors will construct electronic portfolios which include entries that address democracy, diversity, and technology issues.

Conclusions

The fundamental change principles enumerated by Guskin (1996) were definitely affirmed in this PRPE. Simply getting started was indeed a critical event. Using local talent to facilitate the process helped sustain momentum and provided ongoing formative assessment opportunities. Dividing leadership and responsibility between two co-facilitators for each cohort was an effective strategy. The commitment for co-facilitators was demanding and all six discovered anew the reality that peers teaching peers– particularly those who self-identify as "a bucket of eels" – is both rewarding and frustrating. Although external realities such as NCATE and ISTE provided the catalyst for embarking on a process which ambitiously linked personal and programmatic development, the far-reaching changes now underway in this COE demonstrates the power of drawing upon internal resources to create realities in which all stakeholders may be assured their voices are honored and contributions valued. This perspective is entirely consistent with NNER principles. Leadership which privileged tripartite consensus building at each juncture contributed to the success of the PRPE. Building a systematic shared vision put both successes and failures in a context of learning and shared responsibility from the outset.

The first cycle of the PRPE affirmed the principle that successful changes must be manageable for all involved. The cohorts were constructed in semester chunks with clear timelines and benchmarks built into the process. This made the program realistic and systematic. That approach has carried over into the undergraduate program renewal, which is also being built one year and one student level at a time, with ongoing articulation among stakeholders and continuous oversight built into the restructuring effort. As the renewed program gains momentum, it is clear to those involved that the first phase of this effort to increase the knowledge and skills of teacher educators at every level of formation yielded a better-informed, rich context in which to engage in renewal. The instructional content of the

PRPE has been fully integrated into the redesigned COE undergraduate programs, beginning with situating those programs more fully in PK-12 settings than had previously been imagined. Key changes in the programs, driven and informed by the PRPE, include the following: a) placing students in intact cohorts to provide for the development of long-term professional relationships and a sense that their programs are more than an assemblage of courses, b) making a substantial amount of the teacher preparation field-based, with PK-12 teachers appointed as co-college faculty, c) building the three strands of diversity, technology and NNER principles into teacher education courses and d) constructing courses for preservice teachers in which specific arts and science disciplines (English, Political Science) and faculty incorporate the ideals of enculturation into a social and political democracy, equitable access to knowledge, nurturing pedagogy and stewardship. Throughout the lively debates leading up to these changes, the PRPE inculcated the notion that teacher educators from each part of the tri-partite- PK-12, arts and science and education, have unique expertise to contribute and privilege. In short, the PRPE equipped teacher educators with the tools they need to serve effectively in the renewed program, and the new program is invigorated and informed by teacher educators committed to a shared vision of systemic change.

This endeavor demonstrated that no teacher educator is immune to staff development. The cohort process studied here contributed measurably to the knowledge, skills and dispositions of teacher educators, simultaneously setting the stage for dramatic, systemic and thoughtful program renewal. It is possible to design and sustain faculty development among three varied "buckets of eels": education and Arts and Sciences faculty and PK-12 teachers in a systematic and strategic manner, in the service of the ultimate goal: providing children in 21st century schools with the best teachers possible.

Table 1: Participant satisfaction with quality of cohort instruction

Item: Co-facilitators of my cohort. . .	Diversity	Tech	NNER
Inform participants of objectives	4.36	4.41	4.39
Conduct sessions related to objectives	4.55	4.41	4.17
Provide and make appropriate use of learning materials	4.09	4.47	4.17
Pace instructional time well	4.18	4.53	3.83
Use instructional methods that are intellectually stimulating	3.91	4.29	3.44
Communicate effectively	4.64	4.82	4.06
Exhibit sincere interest in participants and encourage participation	4.73	4.88	4.78
Are approachable and willing to listen to participants' perspectives	4.91	4.88	4.89
Treat participants in an unbiased manner	4.82	4.88	4.89
Are enthusiastic about content and working with participants	4.82	4.88	4.78
Display a sense of humor in teaching and working with participants	4.64	4.88	4.78

Note: a five-point Likert type scale was used (1= poor, 5= excellent)

Table 2: Knowledge, skills and dispositions related to diversity (N=15)

Item	Pre-test mean	Post-test mean
I understand the relevance of multiculturalism to equity in education.	5.13	5.67*
I understand why knowledge of other cultures is important to effective teaching.	5.40	5.80**
I understand how my cultural heritage affects my work as a teacher.	5.07	5.53*
I understand how my culture affects my beliefs about normalcy in the teaching/learning process.	4.67	5.47**
I am aware of my prejudices/stereotypes and how they impact my teaching.	4.60	5.13*
I am aware of the 4 types of racist behavior and how they relate to my teaching.	2.80	4.93**
I understand how the idea of institutional racism can be applied to school systems.	4.07	5.20**
I understand minority/White identity development models and the impact of identity levels on the teaching/learning process.	3.33	5.00**
I am aware of my communication style and how it can clash with/facilitate the learning process of culturally diverse students.	4.06	5.53**
I am aware of my learning style and how it may clash with/facilitate the learning process of culturally diverse students.	4.33	5.33**
I am knowledgeable about the sociopolitical history of African Americans.	3.53	4.73**
I am knowledgeable about the sociopolitical history of Asian Americans.	3.27	4.60**
I am knowledgeable about the sociopolitical history of Native Americans.	3.60	4.87**
I am knowledgeable about the sociopolitical history of Latinos in the US.	3.13	4.67**
I am knowledgeable about potential differences in the learning styles among African American students.	3.00	4.73**
I am knowledgeable about potential differences in the learning styles among Asian American students.	3.07	4.67**
I am knowledgeable about potential differences in the learning styles among Native American students.	3.00	4.80**
I am knowledgeable about potential differences in the learning styles among Latino students.	3.00	4.80**
I know the diversity standards endorsed by NCATE and NNER.	3.20	4.47**
I am knowledgeable about the levels of multicultural curriculum integration and the impact of each on student development.	3.13	4.67**
I can critique existing instructional approaches for bias and use with diverse populations.	3.67	4.67**
I can critique curriculum materials/resources for bias and use with diverse populations.	3.60	4.67**
I feel confident that I am using instructional/assessment approaches which meet the needs of culturally diverse learners.	3.20	4.60**
I currently integrate multicultural concepts into the courses I teach.	4.27	5.00**
I feel I have adequate access to multicultural resources in my area.	3.40	4.80**

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Note: 1= strongly agree, 2=disagree, 3=somewhat disagree, 4=somewhat agree, 5=agree, 6=strongly agree
* p<.05; **p<.01

Table 3: Knowledge, skills and dispositions related to technology (N=17)

Item	Pre-test mean	Post-test mean
I am proficient at applying transitions between slides for electronic presentations.	3.00	4.18*
I am proficient at evaluating the instructional effectiveness of electronic presentations.	3.06	3.77*
I am highly aware of electronic resources available to support instruction and learning in my field.	3.47	4.41**
I am able to evaluate software that supports instruction and learning in my field.	3.47	4.12*
I am proficient at using basic multimedia tools such as Hyperstudio.	2.41	3.82**
I am proficient at using advanced multimedia tools such as Authorware.	2.06	3.06**
I am proficient at using digital and analog cameras to import graphics.	2.35	3.18**
I am proficient at creating and including sound files.	2.35	3.18**
I am proficient at using telecommunication technology to deliver instruction.	2.35	4.06**
I am proficient at evaluating the instructional effectiveness of multimedia projects.	2.02	3.94**
I am proficient at using Netscape and/or Explorer to browse the Web for research-based information.	3.41	4.94**
I am proficient at locating lesson plans appropriate for use in my class or by my students in classes.	3.41	4.41**
I am proficient at using electronic conferencing to communicate with colleagues and/or students.	3.06	4.18**
I am proficient at adding presentation, projects, objects, text and other data into an electronic portfolio.	2.47	3.58*
I have sufficient understanding of computer knowledge expected of entry-level teachers.	3.41	4.59**

Note: 1= strongly agree, 2=disagree, 3=somewhat disagree, 4=somewhat agree, 5=agree, 6=strongly agree
* p<.05; **p<.01

Table 4: Knowledge, skills and dispositions related to NNER and partnerships (N=17)

Item	Pre-test mean	Post-test mean
I feel comfortable explaining what NNER means by "teaching is a moral endeavor."	3.00	5.06**
I believe NNER is correct in asserting that teaching is a moral endeavor.	4.71	5.29*
I feel comfortable explaining NNER's concept of simultaneous renewal.	3.35	5.06**
I feel comfortable explaining the NNER dimension of "enculturating the young into a social and political democracy."	3.35	4.94**
I feel comfortable explaining the NNER dimension of "equitable access to education for all children."	3.24	4.88**
I feel comfortable explaining the NNER dimension of "nurturing pedagogy."	3.12	4.94**
I feel comfortable explaining the NNER dimension of "stewardship of schools."	3.18	4.94**
I believe exercising stewardship of schools is one key role of all public school teachers.	4.65	5.35**

Note: 1= strongly agree, 2=disagree, 3=somewhat disagree, 4=somewhat agree, 5=agree, 6=strongly agree
* p<.05; **p<.01

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